DEPARTMENT of ENVIRONMENTAL SERVICES Water Division - Watershed Management Bureau

LAKE TROPHIC DATA

MORPHOMETRIC:

Lake: OTTERNICK POND	Lake Area (ha):	13.76
Town: HUDSON	Maximum depth (m):	3.7
County: Hillsborough	Mean depth (m):	1.9
River Basin: Merrimack	Volume (m³):	261500
Latitude: 42°46'16" N	Relative depth:	0.9
Longitude: 71°25'25" W	Shore configuration:	1.37
Elevation (ft): 170	Areal water load (m/yr)	: 38.93
Shore length (m): 1800	Flushing rate (yr^{-1}) :	20.50
Watershed area (ha): 1113.7	P retention coeff.:	0.40
<pre>% watershed ponded: 0.4</pre>	Lake type: natura	l w/dam

BIOLOGICAL:	10 February 1999	3 September 1998
DOM. PHYTOPLANKTON (% TOTAL) #.	NO WINTER PLANKTON	CERATIUM 40%
#:	ANALYZED	ASTERIONELLA 20%
#:	}	OSCILLATORIA 15%
PHYTOPLANKTON ABUNDANCE (units/mL		
CHLOROPHYLL-A (µg/L)		6.73
DOM. ZCOPLANKTON (% TOTAL) #		NAUPLIUS LARVA 22%
#:	2	CLADOCERAN SPP 19%
#:	3	VORTICELLA 14%
ROTIFERS/LITER		128
MICROCRUSTACEA/LITER		299
ZOOPLANKTON ABUNDANCE (#/L)		534
VASCULAR PLANT ABUNDANCE		Very abundant
SECCHI DISK TRANSPARENCY (m)		2.6
BOTTOM DISSOLVED OXYGEN (mg/L)	3.2	4.1
BACTERIA (E. coli, #/100 ml) #		2
#	2	1
#	3	

SUMMER THERMAL STRATIFICATION:

not stratified

Depth of thermocline (m): None Hypolimnion volume (m^3) : None Anoxic volume (m^3) : None

CHEMICAL:			OTTERNICE HUDSON	K POND	
	10 February 1999		3 September 1998		
DEPTH (m)	1.5	3.0	1.0		3.0
pH (units)	6.4	6.5	7.1		7.3
A.N.C. (Alkalinity)	33.1	36.1	34.2		33.4
NITRATE NITROGEN	0.36	0.20	< 0.05		< 0.05
TOTAL KJELDAHL NITROGEN	0.50	0.40	0.50		0.60
TOTAL PHOSPHORUS	0.024	0.016	0.028		0.031
CONDUCTIVITY (µmhos/cm)	285.6	335.0	210.0		212.0
APPARENT COLOR (cpu)	37	37			
MAGNESIUM			1.62		
CALCIUM			14.9		
SODIUM			24.0		
POTASSIUM			2.14		
CHLORIDE	62	82	35		36
SULFATE	12	13	6		6
TN : TP	36	38	18		19
CALCITE SATURATION INDEX			1.5		

All results in mg/L unless indicated otherwise

TROPHIC CLASSIFICATION: 1998

D.O.	S.D.	PLANT	CHL	TOTAL	CLASS
**	3	6	1	10	Eutro.

COMMENTS:

- 1. aka Tarnic Pond; also spelled Otternic and Ottarnic Pond.
- 2. Otternick Pond was previously surveyed and classified in 1979 and a diagnostic/feasibility study was conducted in 1990-91. The pond has received a eutrophic rating throughout this time period, although the chlorophyll concentration was much less in 1998 than in the previous years.
- 3. This is a shallow, weedy, tea-colored urban pond that historically received drainage from the now defunct Bensons Wild Animal Farm. All ion levels were high typical of urban ponds and sodium and chloride ions suggest road salt runoff.
- 4. Good boat launch.

FIELD DATA SHEET

LAKE: OTTERNICK POND TOWN: HUDSON DATE: 09/03/1998 WEATHER: SUNNY & CALM

DEPTH (M)	TEMP (°C)	*DISSOLVED OXYGEN	OXYGEN SATURATION
0.1	24.4	6.0	71 %
1.0	23.3	5.5	64 %
2.0	23.0	5.1	59 %
3.0	22.9	4.1	47 %
141.00000000000000000000000000000000000			

SECCHI DISK (m): 2.6 COMMENTS:

BOTTOM DEPTH (m): 3.7

TIME: 1130

*Dissolved oxygen values are in mg/L

AQUATIC PLANT SURVEY

LAK	E: OTTERNICK POND	TOWN: HUDSON	DATE: 09/03/1998
Key	PLANT	NAME	ADUNDANCE
Key	GENERIC	COMMON	ABUNDANCE
L	Lythrum salicaria	Purple loosestrife	Scattered
W	Potamogeton robbinsii	Robbins pondweed	Very abundant
N	Nymphaea	White water lily	Abundant
М	Myriophyllum	Non-flowering milfoil	Sparse
f	Chlorophyceae	Filamentous green algae	Abundant
A	Sagittaria	Arrowhead	Sparse
D	Decodon verticillatus	Swamp loosestrife	Scattered
P	Pontederia cordata	Pickerelweed	Common
đ	Lemnaceae	Duckweed family	Sparse
g	Myrica gale	Sweet gale	Scattered
Y	Nuphar	Yellow water lily	Common
ប	Utricularia	Bladderwort	Scattered
Т	Typha	Cattail	Scattered
С	Ceratophyllum demersum	Coontail	Sparse
В	Brasenia schreberi	Water shield	Sparse
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	t		

OVERALL ABUNDANCE: Very abundant

GENERAL OBSERVATIONS:

- 1. The observed milfoil were non-flowering fragments; they had thick stems suggesting the exotic species, but a definitive identification was not possible.
- 2. Filamentous algae and Robbins pondweed were very abundant around the entire pond. Purple loosestrife was common along the shore of the pond, out of the water.